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# BETTER FRUIT

VOLUME XI

OCTOBER, 1916

NUMBER 4

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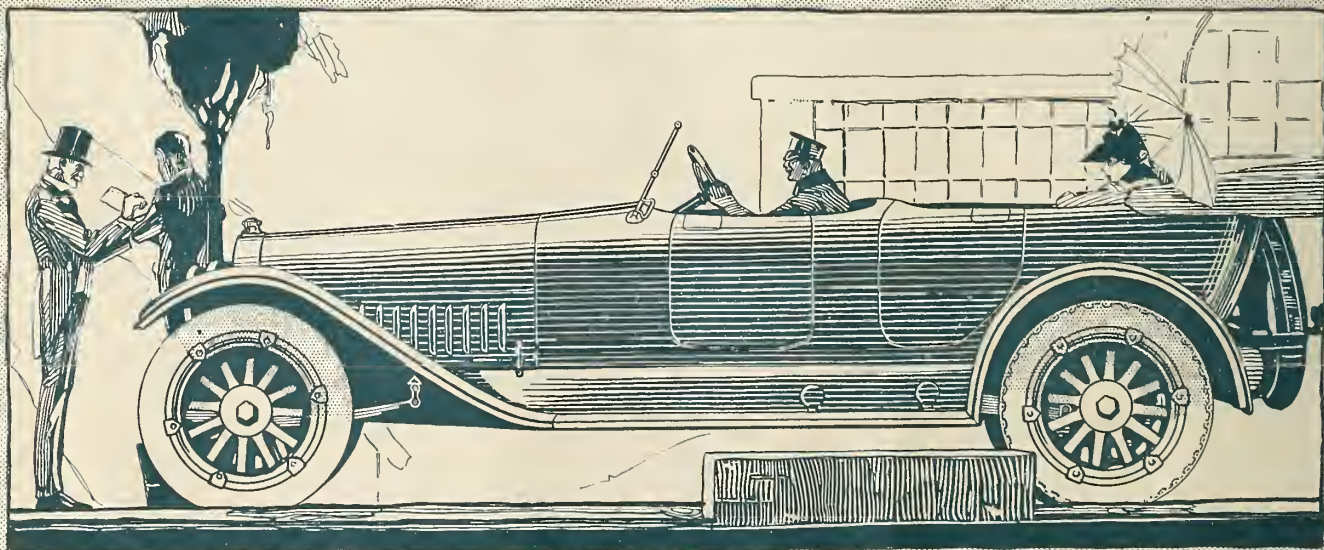
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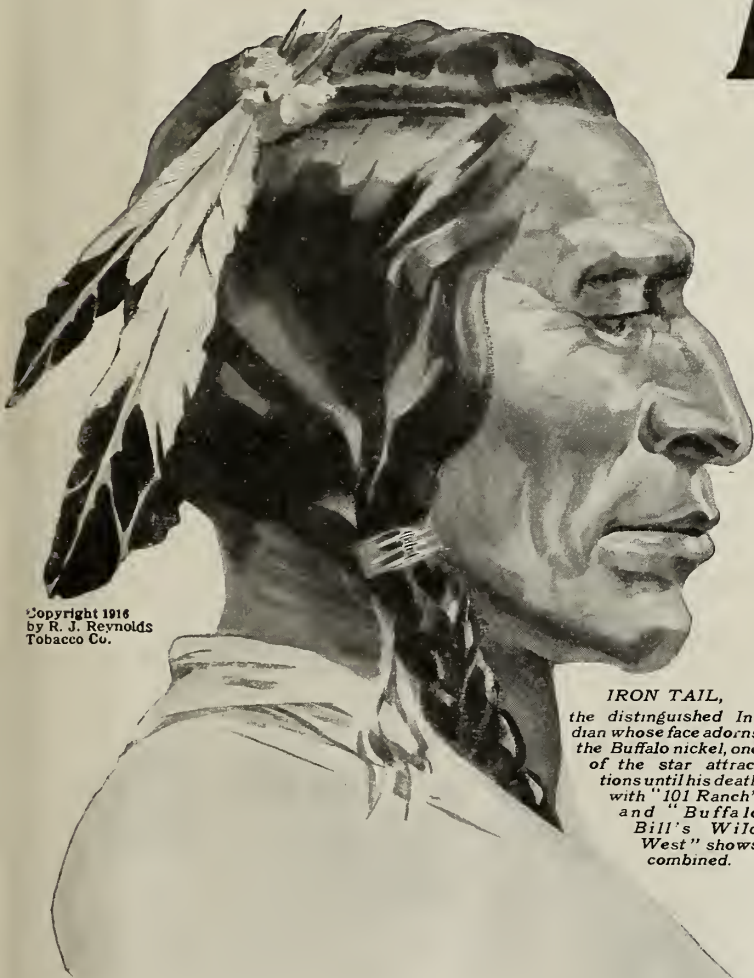




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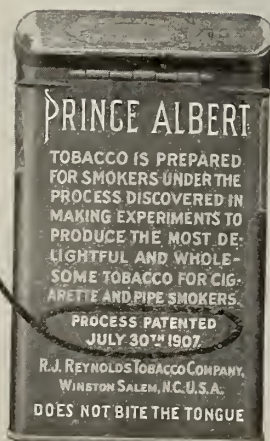
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# BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

## The Physical Handling of Fruit

By C. I. Lewis, Professor of Horticulture, Corvallis, Oregon

**M**OST fruit growers of the Pacific Northwest are now familiar with the fact that the Office of Markets of the United States Department of Agriculture spent much time studying our fruit marketing situation in the Northwest, and finally suggested to the growers that they form what has been termed the Fruit Growers' Agency, Incorporated. It is not my purpose to deal with the entire function of this new agency, but more to confine myself to its relation to the physical handling of fruit in the Pacific Northwest. This function of the Fruit Growers' Agency, Incorporated, is well defined in what is known as the uniform contract. In this uniform contract, under Heading 2, Section b, we find the following: "(b). To work in close harmony with growers with the aim of securing uniform methods in the harvesting, grading, packing, and the physical handling of the fruit from tree to car; and to secure a standardization and enforcement of the grading and inspection rules of the States of Oregon, Washington, Idaho and Montana." Also under Heading (g), No. 2, we note the following paragraph: "To see that the fruit is prepared for market so that the grade and pack may be in accordance with the best trade demands."

The reader will see at a glance that these two clauses indicate that a vigorous campaign is to be waged in the Pacific Northwest to improve the physical handling of our fruit. In Oregon, the Oregon Agricultural College, thru its Bureau of Markets, is co-operating very closely with the Government in the general program, and the Division of Horticulture is giving aid in the physical handling of fruit.

In addition to the work which the Office of Markets and the various Agricultural Colleges in the Northwest are doing to foster this movement, other United States Department of Agriculture agencies are aiding the growers at this time very materially. I refer especially to the investigators connected with the Office of Pomological Investigations, who are conducting in the Northwest investigations on the pre-cooling and storage of fruit, the construction of packing houses and storage plants, etc. These men are ever ready to co-operate with the growers in giving assistance along such lines. The Office of Markets has not confined its energies to the mere organization of such an agency, but it has placed numerous men in the field to help carry out the various provisions of the "uniform contract." Along the lines of physical handling, it is interesting to know that

men are at work in the Pacific Northwest studying our methods of packing and transportation. A special study is being made of community packing houses, and their general efficiency, as compared with small houses conducted by independent growers.

Never in the history of Northwest fruit growing has so much attention been given to the problems of organization and of marketing our fruit. Never before has our national government lent us so much aid. Not only the national government and the agricultural colleges, but our business men are backing this movement. It is gratifying to note that our substantial business men and bankers at last realize that much attention must be given to our two-hundred-million-dollar apple industry, and feel that they must assist in marketing so that we may realize the greatest profit from the industry.

It is very important that we give this subject of physical handling a very close study. It is true that the Northwest has perhaps made more progress in the grading and packing of fruit than any other section of the world. We have become famous because of the quality of our pack, but perhaps this reputation in a way is beginning to hurt us. We are resting on our oars. Many of us do not realize the terrific loss that our growers are sustaining because our methods are not what they might be. We have only started in this great work; we are beginning to learn that

our fruit must be moved much more rapidly than formerly; that we must make a supreme effort to get this fruit from the tree to the cold storage plant in the shortest possible time; that unnecessary delay means that we will suffer enormous losses. We are just beginning to realize that we have been wasting too much money; that we are on the threshold of a period where more waste will be the result unless we study this question more in detail. We are about to spend millions of dollars in the erection of packing houses and storage plants, and before this money is spent we should analyze the situation carefully. We have passed through our period of development; we are now reaching a period of organization, not a mere selling organization, but an organization of standardization of methods of physical handling. We can learn a great deal from each other, and by co-operation can do much to improve the condition of our fruit, as far as its arrival at the point of consumption is concerned. We must maintain finish in our fruit. We in the West are favored because of the superb color and quality of our fruit. Our growers have demonstrated that this can be fairly easily obtained. We have not demonstrated, however, that we can always put this fruit in the hands of the consumer with the same degree of finish. While we are putting lots of it there with finish, a very large percentage is arriving at the market in poor



FIGURE 1—Packing scene in house in Hood River. Shows cheap construction and good light. The fruit is placed on sizer at upper end of room.





FIGURE 3—Fruit being unloaded on upper floor. Note fruit is being placed on gravity carriers. The wagon used is a good type and the tarpaulin on it aids in keeping the fruit clean.

condition. Our problem is to see if we cannot handle our fruit in such a way that the consumer can get the benefit of the superb quality and finish, and second, that we put this fruit in his hands at a lower cost than we have formerly been able to accomplish.

#### Harvesting.

There are two conclusions that students of the methods of harvesting in the Northwest will invariably come to; first, that we don't pick enough of our fruit at the right time, allowing a very large percentage of it to become over-mature, and second, that we allow too much delay between the time the fruit is harvested and the time it is packed. While some of our fruit is picked too green, resulting in poor quality and a development of storage scald, nevertheless a very large percentage of our fruit stays on the trees far too long. This is due to the fact that our growers are over-anxious to obtain the maximum amount of color. Though the writer can remember when the Jonathan apple on the whole was picked from ten days to two weeks later than is now the practice, nevertheless far too many Jonathans are today allowed to remain on the tree too long. There is an enormous amount of deterioration which takes place in our fruit owing to this delay in harvesting. For example, many apples develop a sort of core rot. This is especially noticed in such varieties as the Jonathan, Delicious, Gravenstein and Ortley. Many varieties develop a dryness and mealiness of flesh, lack of juice, and are devoid of real snap and high quality. This is found very commonly in such varieties as Spitzenburg, Jonathan, Baldwin, Delicious and Wagener. In fact, nearly all of the fall and early winter varieties are subject to this deterioration. A splitting at the calyx is very pronounced, and is not confined to any one variety, but is found prevalent in nearly all varieties. This calyx

cracking and splitting at the stem is almost invariably due to an over-maturity of the fruit. In many red apples a noticeable black pitting is found in the flesh. There is a slight depression in the skin, which becomes black. This is especially noticeable in the Spitzenburg, Jonathan and Baldwin. The length of the keeping season of many of our apples is greatly reduced because of this delay in harvesting. The writer once carried on some experiments with fall and winter varieties along these lines, and it was found that by picking at the right time many fall varieties could be carried well into the winter, while with the late keepers, such as the Yellow Newtown, two months' difference in the keeping quality was the re-

sult of a period of a week to two weeks' difference in the time of harvesting. With many of our apples it is going to be necessary to have several pickings. This is especially noticed in the Gravenstein, and will be especially true in fall and early winter varieties. The Jonathan, for example, could often be picked to advantage with several pickings rather than a single picking, if we keep in mind the highest quality of the fruit. In College Bulletin 118, entitled "Handling the Fruit Crop," the writer has given the characteristics of many varieties, which might aid the grower in determining the proper time for harvest. In that bulletin also he has discussed many subjects on packing and harvesting which will not be repeated here.

We need to organize our harvesting more than we have done in the past, to have a proper division of labor between the pickers, graders and packers. The day is coming when we are going to follow quite closely the footsteps of many of the orange growers. We will be organized into groups, associations or organizations of various kinds, where all the equipment will be held and owned by the organization, and such organization, whether it be a fruit growers' association or corporation, will have absolute control of the harvesting, will take charge of the same, and the grower will simply become one of the community workers in the general scheme. In other words, we are drifting very rapidly to the community idea in handling our fruit, and what progress we have made seems to indicate that the movement is a wise one, which will result in an improvement in methods and a standardization that we can perhaps accomplish in no other way.

The fruit is allowed to remain in the orchard far too long after it is harvested. While many growers make the attempt not to allow the fruit to remain



FIGURE 4—Fruit coming into temporary storage room on a gravity carrier. Man in background is unloading from wagon.



over twelve or fifteen hours, still it is not uncommon to find fruit stacked up in the orchard for several days. Some growers argue that it is better to haul in the fruit during the cool of the morning, after it has been thoroughly cooled. The greatest objection offered to this practice is the accumulation of dew, which makes the fruit very wet and undesirable to handle until later in the day, when the fruit again becomes heated. In some sections they are trying the experiment of night hauling. The fruit is picked during the day, and in the early evening and during a good part of the night the fruit is hauled. To bring this about motor trucks are often used. It seems possible in many communities to secure trucks that have been working in the cities during the day time, and are generally idle all night. These truckers are quite often glad to have their machines at work during the harvest period. Mr. E. V. Beckwith, manager of the Rogue River Fruit and Products Association, has hauled fruit fourteen miles to his community packing house, using for such purpose the auto truck. We must make an honest endeavor to get our fruit from the orchard to a place where it can be cooled and kept cool in the shortest practicable time.

#### Grading and Packing Equipment.

In choosing the equipment for a house, rapidity, efficiency and economy must be sought. As is true in commerce and manufactures, effort must be made to reduce hand labor to the minimum. Not only must there be good equipment, but it must be so arranged that it allows for speed, system and lack of confusion. The indications now are that the days of hand sizing and of much trucking are past. The fruit grader, or what had better be termed the fruit sizer, and the gravity carrier have come to stay. While there are some growers who feel that

the fruit sizer is not what it is represented to be, the great majority of growers in associations in such districts as North Yakima, Spokane, Watsonville and Hood River, who have tried them, speak of the machine in highest praise. From present indications a very large percentage of the fruit in the Hood River Valley this year will pass through mechanical sizers. The hand-sized fruit will be the exception, and the machine-graded fruit the rule. In all probability some of the dissatisfaction that has come from the use of fruit sizers has come from the fact that old models have been tried. The fruit-grading machine manufacturers have benefited

from four or five years' experience, until now most of the machines have been greatly improved and the later models seem to be giving very good satisfaction. There are many models of machines on the market. Some grade according to size, but the present tendency with most machines is to grade according to weight. Nearly all the machines will give at least two grades, and some will grade three at the same time. Where only two grades are carried through the machine at the same time, the practice is to run the remaining fruit, which would make C grade and cookers, through the machine on a second run. There are some half dozen machines being used in the Pacific Northwest and California, and the manufacturers will be very glad to furnish readers with testimonials of their efficiency. The writer has obtained letters from users of practically all of these machines. These machines are the Cutler fruit sizer, the Nuna-maker grader, and the Palmer grader, all of Hood River; the Oregon apple sizer, of The Dalles; the Price sorter and sizer, of North Yakima, and the Nelson grader, of North Yakima. Those who have used the machines extensively claim the following advantages: First, that much cheaper grading and packing results. For example, where packing from hand-sized fruit usually cost as high as six cents a box, much of the machine-sized fruit can be packed at as low a cost as three cents. Second, the machine is much more rapid. Where formerly a grower packed from 50 to 75 boxes a day, he now packs from 100 to 125 boxes. The use of the machine has often allowed the grower to get along with such makeshifts as tents for use as packing houses. It has also meant that much less room for temporary storage of fruit before it is graded is required with machines, than where hand grading is resorted to. Again,



FIGURE 8—The fruit which was placed on chute by the man in Figure 7. Note that the fruit is being carried directly to wagon from packing room shown in Figures 5, 6 and 7.



FIGURE 6—This shows a well proportioned room—plenty of space, not too much and not too little. This means economy. Note the good use of gravity carriers. This view will also give a good idea of the type of construction of this building.





FIGURE 5—Fruit being graded and packed. Men to the right are grading. Men in the rear packing. Note apples in the air being thrown by machine. Also note fruit is brought to graders on a gravity carrier.

where help is scarce, it allows you to use more pickers in the orchard, and less packers in the packing house to handle your crop. A great many growers have sent testimonials regarding the use of the sizer. Some of these will be of interest to our readers.

Mr. C. A. Reed, a prominent grower of the Hood River Valley, has the following to say concerning his experience with the grading machine: "Machine grading has cheapened the cost of handling considerably. In 1913, the last year I packed without a machine, it cost me approximately 16 cents a box to handle through the packing house. In 1914, the first year I used a machine, it cost 10 cents, and in 1915 the cost was 8 cents. In 1915 the labor was 25 cents a day cheaper than in 1913 and 1914. Packing in 1913 cost me 6 cents per box, in 1914, 4 cents, and in 1915, 3 cents. A machine does increase the amount of work a packer can do. The machine just about doubles the amount of packing. The machine I think is the best is the Cutler. I have their 1914 model. Their 1915 model is a very good one."

The Pioneer Packing House of Hood River, a community packing house to which reference will be made later under the subject of community packing houses, reports that a Palmer sizer

with attachments for handling three grades at once has proved itself to be a great economy in handling fruit.

Mr. MacDonald of Watsonville, California, has the following to say concerning the use of the grader in their warehouse: "Answering your favor of the 24th, we beg to advise that we are using the Price fruit grader, both in our packing house at Watsonville and also at Aptos. We find the use of the grader most satisfactory in the handling of apples. Not only has it improved our pack for the reason that our apples are graded perfectly as to size, but it also enabled us to do the work far cheaper. The saving in labor, however, varies a good deal with the amount of culls that are to be sorted out before the fruit reaches a grader. On our first picking of Bellflowers last season we were making a saving of \$10.30 a day by the use of graders, as against the old way of hand sorting and grading."

Mr. Rogers, of Rogers Brothers, Watsonville, also has some very favorable comments regarding grading machines: "Before using the machine we had only three main sizes, namely, 3½ tier, 4 tier and 4½ tier. It is our opinion, however, that by using the machine we are able to get better grading and better sizing; also quicker and cheaper handling. We estimate that it will cut down the expenses per box from 2 to 5 cents over the old methods."



FIGURE 7—Fruit being nailed at end of sizing machine. Note man in rear placing box of fruit on chute.

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U. S. BULLETIN No. 38.

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storehouse. From the storehouse it can be taken on a carrier right into the car where it is loaded. Additional conveyors can also be used to take the empty boxes from the grading machine to various parts of the house, where they can be stacked ready for the fruit growers. Various chutes can be constructed to enable one to secure the boxes for packing easily from the attic or loft. The Hanauer-Graves Company, of Spokane, Washington, have two houses that are splendidly equipped with these conveyors. One of their houses is known as The Meadow Lake - Waverly Holding Company. Mr. A. E. Peters of the Hood River Apple and Storage Company has installed such conveyors in the company's packing house, and finds them of great value and aid in the work.

Every packing house which handles a large tonnage should have efficient nailing machines. There are still too many houses which have rather cumbersome machines for the nailing of the boxes. The time may come when we may be able to nail our boxes mechanically; at least, the time is not very far distant when in the larger community and association houses it will probably pay to install box machines for the manufacture of the boxes for packing, or for field boxes to be used in the orchards. The small individual grower cannot possibly afford such machinery, but where thousands of boxes are to be used it will pay the managers to investigate the possibilities of such machines.

The writer is not attempting in this bulletin to give a complete analysis of the cost of handling the fruit crop. Such a report has already been given in Station Bulletin 132, entitled "The Economics of Apple Orchard." That bulletin gives the cost of harvesting and handling the crop from a thousand orchards in the Northwest, and is available for distribution to those growers who desire it. The figures in that bulletin indicate that the average cost of handling the crop, including the picking, packing, hauling and cost of materials required, ranges from 30 to 35 cents. However, in the larger houses, and in many of the community houses, figures of from 4 to 9 cents a box less than these have been secured. In fact, there is one community house that, it is claimed, puts up a good pack for as low as 24 cents. There are certain varying factors which will determine the cost, such as tonnage, arrangement of building, business management, etc. One fact stands out very clearly, however, namely, that the average is too high. We know this because those growers who have taken the average of the Northwest and have worked carefully for a few years have generally been able to reduce the cost of handling from 4 to 8 cents a box in a period of two or three years.

Continued in next issue

Fruit buyers pay better prices for apples in clean orchards; they can see the fruit. Its quality shows up. It looks easy to handle. The man with a neglected orchard never gets what his fruit is worth.



### Keep it oiled

Through the microscope, a strap looks more like a sponge than a piece of leather—it's honey-combed with pores. Through these pores, dirt, sweat and moisture attack the leather fibre and weaken your harness.

## EUREKA Harness Oil

fills these pores—preserves the original strength and appearance of your harness—adds years to its life. Ask your dealer today.

**Standard Oil Company**  
(California)

The Corralitos Fruit Growers' Association, of Watsonville, states that the association installed five Price fruit graders the past season, and were able by the use of these to reduce greatly the cost of handling the fruit, as well as to put out a much finer and more uniform pack.

We have dozens of such testimonials which show the value of these machines. All machines enumerated have had kind words said in their behalf. There is no attempt on the part of the College to recommend one of these machines over the other. It would simply call the growers' attention to the fact that these machines are on the market, that they are giving efficient service, and that our readers can avail themselves of the opportunity to investigate by writing to the manufacturers and getting the names of growers who have used their machines, or they can attend

the numerous state fairs and apple exhibitions and see these machines working. We feel confident that in the very near future nearly all the fruit in the Pacific Northwest is going to pass through the mechanical sizers.

Many of the fruit packing houses are finding that the gravity carriers or conveyors are proving to be great money-savers. They do away with much trucking, help to systematize the handling of the fruit, and aid in the rapidity of handling. These gravity carriers come in many forms, such as a series of rollers or carriers, inclined planes or conveyors, and chutes which take boxes from floor to floor. They can be used first to take the fruit from the wagon as it is hauled to the house, and later to the grading machines. Another carrier takes the packed fruit from the machine to the nailer. From there it is placed on the carrier again and taken to the



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We handle more box apples that any concern in Ohio and want to hear from every grower and shipper who will have either large or small lots to offer.

Let us hear from you at once.

## I. N. PRICE & CO., CINCINNATI, OHIO

REFERENCES: ANY BANK OR CREDIT AGENCY

### 1916 Fruit Crop Estimate for Washington

[Horticultural Division of State Department of Agriculture in co-operation with the Fruit Growers' Agency.]

IN making the estimates and collecting the data for this report the inspectors at large were instructed to look over their horticultural districts preparatory to making their estimate and to call on shippers and shipping organizations accustomed to making fruit crop estimates. In this way we have the opinions of many different shippers in addition to the inspectors as to the fruit crop prospects.

Miller, Cashmere, local horticultural inspector; Ira Cleveland, Wenatchee, Growers' League; William Humphrey, Wenatchee, Growers' League; Cliff White, Cashmere Union; Harry Upker, Wenatchee Produce Co.; Pickett & Andrews, Cashmere; R. Garritson, Brewster; F. H. Phipps, Brewster; Pat Ryan, Bridgeport Bar; Nels Darling, Bridgeport; C. A. Thomas, Bridgeport, and others.

#### WENATCHEE-NORTH CENTRAL WASHINGTON DISTRICT

Shipping Point	Apples	Peaches	Pears	Plums	Apricots	Cherries
Leavenworth .....	40	...	...	...	...	...
Peshastin .....	215	...	2	...	...	...
Dryden .....	300	...	20	...	...	...
Cashmere .....	1,500	...	80	3½	2	5
Monitor .....	600	5	40	5	10	4
Wenatchee, Olds and Malaga .....	3,100	100	200	80	150	65
Entiat .....	400	19	20	3	2	...
Winesap .....	40	...	...	...	...	...
Chelan .....	200	...	4	...	...	...
Pateros .....	105	5	4	...	...	4
Brewster .....	175	3	2	...	1	1
Okanogan-Malott .....	150	3	4	...	2	...
Omak .....	485	...	4	...	3	...
Totals .....	7,310	134	380	90	170	79

#### Yakima Valley.

Estimated that Kittitas County will produce 250 cars of apples this season.

An average of the different estimates for Yakima County gives us the following figures: Apples, 6,595 cars; pears, 752 cars; peaches, 834 cars; plums and prunes, 130 cars. Some of the estimators placed apples as low as 4,500 cars, while one estimate was as high as 8,000 cars. The majority of those estimating gave figures ranging from 5,500 to 7,000 cars, so that the average of the different estimates looks conservative.

In submitting his estimates the inspector at large also comments on some factors affecting the condition of the crop:

**Aphids**—The past two weeks have been cool, cloudy and rainy, and as a result the aphids have become very plentiful, and in our travels over various parts of the valley we find that the aphids are causing considerable loss, in fact we have reduced our apple estimate 100 carloads. If the same weather conditions continue for another week we shall have to reduce our estimate at least 200 carloads. A small percentage of the apple growers have been spray-

Of the two and one-half million boxes handled in 1914 by "The Big Four" the inspector has figured out what part of the total crop was Winesaps, Spitzenburgs, Jonathans, etc. On this basis the inspector has made the following estimates for the 1916 crop:

Variety	Per cent in 1914	Per cent in 1916
Winesap .....	19.6	20
Jonathan .....	16.8	16
Delicious .....	2.9	6
Spitzenburg .....	11.0	13
Rome Beauty .....	8.8	9
Stayman .....	8.5	9
White Winter Pearmain .....	2.2	3
Yellow Newtown Pippin .....	2.1	2
Black Ben and Gano .....	7.0	7
King David .....	1.3	0.05
Winter Banana .....	0.8	2
Black Twig .....	2.0	2
Ben Davis .....	4.1	3
Arkansas Black .....	2.3	2
Grimes Golden .....	1.2	1
Mixed .....	7.8	6

The above estimates were submitted to this office by Mr. O. T. Clawson, inspector at large, Wenatchee, Washington. The following men assisted Mr. Clawson in getting the information and in making the estimates for the North Central Washington district: Clois George, Brewster, local horticultural inspector; Stanley Nagley, Okanogan, local horticultural inspector; Harry E.

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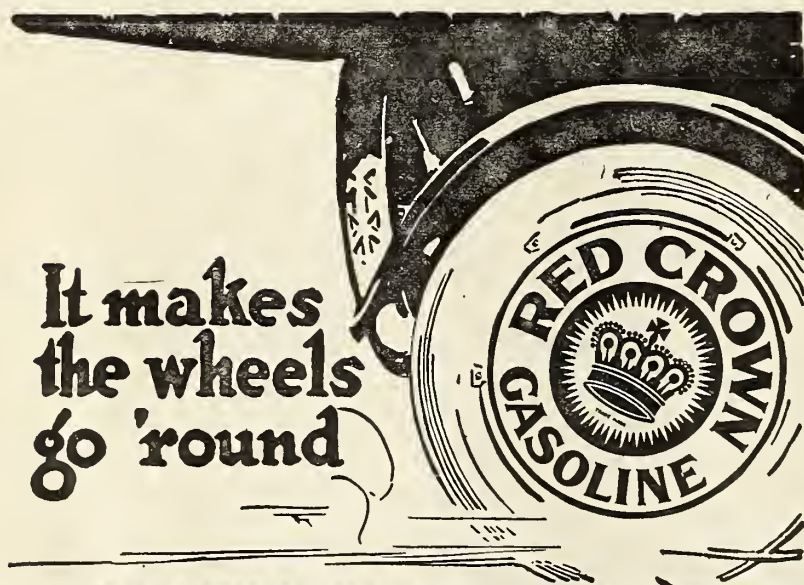
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NEW ORLEANS, LOUISIANA

ing for the aphids, but the majority have not on account of anticipating hot weather.

**Apple Powdery Mildew**—There has not been as much spraying for apple powdery mildew as during the previous year, yet the disease has been worse in some parts of the valley. Many apples will be put in the C grade which otherwise might have been put in the higher grades, had the growers sprayed.

**Codling Moth**—The growers in general are doing better spraying and seem anxious to apply the spray at the proper time. We advised an intermediate spray beginning June 27, to July 4, and many are spraying. We find two distinct stages of codling moth larva. The older worms are just emerging from the apples and the younger stage just entering, so you can see what we may expect during July and August.

**June Drop**—The June drop has been very heavy and especially so in those orchards that were hit hard with the late frosts. We have lowered our estimate about 300 carloads on account of the June drop.

**Fire Blight**—This disease seems to be gaining headway all over the valley, partly on account of weather conditions and aphids and carelessness on the part of many growers. The Grandview, Buena, Parker Heights and districts adjacent to the city of North Yakima are becoming generally infected.

The fruit crop estimates for Kittitas and Yakima Counties were submitted to this office by Mr. F. E. De Sellem, inspector at large, North Yakima, Washington. The following men gave Mr. De Sellem assistance in making the estimates for these two counties: H. E. Waterbury, local horticultural inspector; C. L. Hamilton, field inspector, Yakima Valley Fruit Growers' Association; C. W. McCullough, sales manager, Yakima Valley Fruit Growers' Association; Horticultural Union, Richey-Gilbert Company, Shrader Company, Refrigerator Companies, Growers Service Company, E. E. Samson Company, Thompson Fruit Company.

The estimate for Benton County is as follows: Apples, 160 cars; pears, 80 cars; peaches, 40 cars. These estimates were submitted by Mr. Luke Powell, inspector at large, Prosser, Washington.

Walla Walla District.

For Walla Walla and Columbia Counties the following car-lot estimates were carefully made and are considered very conservative estimates of the apple crop: Winesap 40 cars, Rome Beauty 190, Newtown Pippin 30, Jonathan 75, Arkansas Black 6, Grimes Golden 5, Ben Davis 25, Black Twig 13, Baldwin 3,

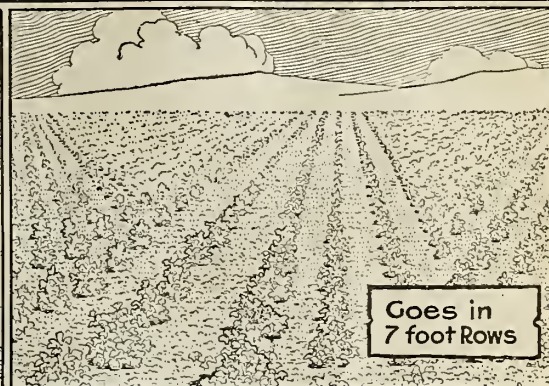
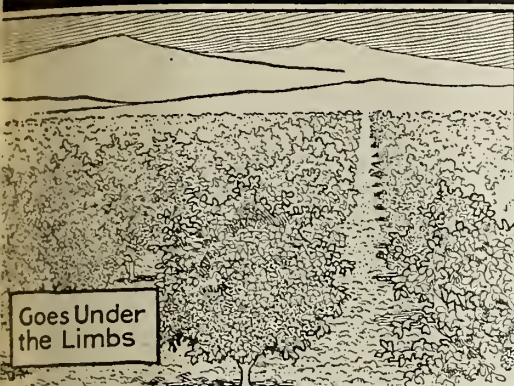
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Name .....	CHECK MAIN CROP RAISED	
P. O. Box .....	Fruit.....	Rice.....
Town .....	Grapes.....	Alfalfa.....
State .....	Grain.....	Hay.....
Size of Farm..... acres	Hops.....	.....

Wolf River 7, Banana 3, York Imperial 4, Delicious 4, King David ½, Bellflower ½, Northern Spy 2, Kaighn Spitz 4, Wealthy 2, Snow 1, Duchess 7, Northwestern Greening 1, Wagener 1, Jeffrey 3, Gravenstein 4, Virginia Beauty 2, Astrachan 1. Total 434 cars.

For Garfield and Asotin Counties the estimate is: Pears 12 cars, peaches 35, Rome Beauty 50, Spitzenburg 8, Winter Banana 1, Jonathan 2, Ben Davis 2, Winesap 1, Stayman 3, Yellow Transparent 2, Duchess 2.

The fruit crop estimates for the Walla Walla district were submitted to this office by Mr. C. W. Gilbreath, inspector at large, Walla Walla, Washington. In making the estimates for Walla Walla and Columbia Counties Mr. Gilbreath was fortunate in being able to decide upon final estimates in conference with Captain Paul H. Weyrauch, president of the Fruit Growers' Agency. C. G. Andrus and Stanley Armstrong assisted Mr. Gilbreath in the estimates for Garfield and Asotin Counties.

### Spokane District.

We have the following report from the Spokane district: "On account of scattered orchards and amount of new

acreage coming into bearing it is hard to estimate the crop. Probably 1,000 to 1,200 cars of apples and 100 cars of mixed fruit shipments. June drop has been heavy. Practically no hot weather yet. H. W. Samson, Inspector at Large, Spokane."

### Clarke, Skamania, Klickitat Counties.

Clarke County—The estimate of 7,000,000 pounds of dried prunes remains as the estimate, as there seems to be no reason to date for changing this former estimate.

Skamania County—Apple crop estimated at 15,000 boxes.

### SUMMARY OF CROP REPORT FOR THE STATE OF WASHINGTON, BASED ON REPORT PREPARED UNDER DIRECTION OF MR. T. O. MORRISON, ASSISTANT COMMISSIONER OF HORTICULTURE, WASHINGTON

	Apples	Peaches	Pears	Plums & Prunes	Apricots	Cherries	Mixed
Wenatchec-North Central Washington District .....	7,310	134	380	90	170	80	...
Yakima Valley District:							
Kittitas County .....	250	...	752	130	...	...	...
Yakima County .....	6,595	834	752	130	...	...	...
Benton County .....	160	40	80	...	...	...	...
Walla Walla District:							
Walla Walla, Columbia Counties..	434	...	...	175	...	...	20
Garfield and Asotin Counties.....	71	35	12	...	...	...	...
Spokane District .....	1,000	...	...	...	...	...	100
Clarke, Skamania, Klickitat Counties	175	20	15	...	...	...	...
Totals.....	15,995	1,063	1,239	395	170	80	120

THE FRUIT GROWERS AGENCY, INC.,  
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of Congress of March 3, 1879.

The Fruit Crop for the State of Washington.—Attention is called to this report, appearing elsewhere in this edition, on account of the very thorough manner in which it has been compiled and the valuable information it contains. It must be borne in mind that this estimate was made July 3d, consequently it was too early to be regarded as authentic. It is possible the crop may be either more or less. It will be interesting to preserve for comparison with the actual quantity shipped, which will be known at the end of the season.

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Soon open for engagement. Can handle any orchard or farm proposition, the larger the better, successfully, that has the rudiments of success in it. Address K. L., care "Better Fruit."

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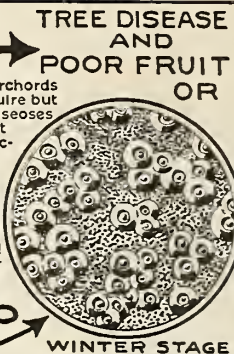
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**TREE DISEASE AND POOR FRUIT OR**



**WINTER STAGE SAN JOSE SCALE**

The Wenatchee-North Central report is the most thorough and complete of any section in the State of Washington and probably compiled with the most care. It shows the actual number of cars estimated shipped from each station in that district on the following varieties of fruit: Apples, peaches, pears, plums, apricots and cherries. Equally important, in fact more important, as apples are the main fruit crop of the Northwest, is the percentage information, showing the percentage of each variety as shipped in the year 1914 (1914 was a very heavy crop), as estimated with the year 1916. Due credit is given in this report to the inspectors and assistants who made the estimates in their various districts. Fruit men in general, inspectors in particular, in various fruit sections, not only in the State of Washington but in other Northwestern states, should take this report as a model next year, endeavoring to render a similar report. Such reports are mighty important, in fact almost a necessity, and if we expect our associations and selling concerns to handle the crop in the most intelligent manner it is absolutely necessary that they should have reliable estimates as to the quantity of each variety of fruit, in order to know how to sell in the most intelligent manner. In other words, a man cannot sell intelligently if he does not know what and how much he has to sell. If all the districts would compile such estimates, then each district would not only have information pertaining to itself, but information from all other districts. The Northwest has become so prominent that what one district has has an effect on the market opportunities of another district, affecting prices. Consequently, in order to sell in the most intelligent manner possible, our selling organizations must be provided with the fullest amount of information about the estimates of the crop, not only from one district, but from all other districts in Oregon, Washington, Idaho and Montana, by compiling just such reports as the Wenatchee-North Central has compiled, which is the only way this information can be secured.

The Push-Cart District of New York City.—The illustration on the cover page is a scene on the lower East Side of New York City. It is an interesting picture and has an immense significance in connection with fruit growing, for the reason that an immense proportion

of fruits that are shipped from the Northwest are sold by push-carts in the tenement districts of the big cities. These tenement streets, with their push-carts, are a sight worth seeing, some-

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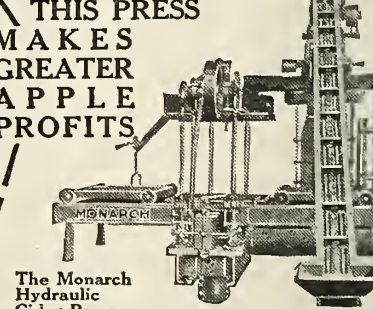
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thing neither picture nor article can describe, only in a limited way. In the evening the streets in the tenement districts are so filled with push-carts and people that it is absolutely impossible to walk on the sidewalk, and frequently the street is so filled that it is with difficulty one can go through the street. The Editor visited the tenement districts when in New York a few years ago, finding it one of the most interesting sights in connection with the fruit industry that he visited while on a very extensive tour throughout the United States, in which he visited the auction rooms, the public markets, the docks, of practically every large city in the United States.

**Normal Schools.**—For a considerable time there has been an apparent shortage of school teachers. By that is meant a shortage of school teachers of training and ability. The fact of the matter being there are not enough first-class school teachers to fill all of the schools, and naturally most school teachers prefer to teach in the large cities, consequently the large cities absorb a large part of the first-class teachers, making it very difficult for the balance of the state to obtain satisfactory instructors. In view of this fact it seems the state is justified in maintaining more than one normal school. The Editor being a college graduate, speaks with a great deal of earnestness and has read considerable upon this subject and educational subjects, and does not hesitate to say that Oregon should follow plans in reference to normal schools adopted in some of the other progressive states, that is, maintaining more normal schools. In fact, the State of Oregon should have three normal schools. These should be located in the thickly settled districts, one in the eastern portion of the state, one at Monmouth and one in Southern Oregon. It is a well known fact that a great many more pupils will attend a school or college close to home than will attend if they have to go a long distance. Consequently one or two more normal schools would certainly create a greater attendance, producing a larger number of teachers, and in a short time the supply would be sufficient.

**The Keeping Qualities of Apples.**—Mr. Charles L. Hamilton, one of the inspectors for the North Pacific Fruit Distributors, and long connected with the Yakima Valley Fruit Growers' Association as inspector, through many years' experience has accumulated some very valuable information for the benefit of the apple grower, which is given in detail in an article appearing elsewhere in this edition. Such information is important. Mr. Hamilton knows and he has told you what he knows. Fruit growers should bear in mind that the keeping quality of an apple is impaired both by being picked too early or being picked too late. Some growers pick too early, others pick too late. This should be corrected. Mr. Hamilton also lays particular stress on the fact that apples after being picked are

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All Over the  
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This is a good year to begin marketing independently. Get the Produce Reporter Service, which includes the Big Blue Book—look up the names of prospective reliable buyers at distant points—write them what you are going to have to sell—start a large correspondence that as soon as the apple shipping season opens will result in wire inquiries and orders from distant buyers. By this method you can get the highest price for your fruit.

Produce Reporter Service also includes the assistance of a qualified Inspecting and Adjusting Department that, **should** any of your cars be rejected, you can wire, and we will immediately inspect and report to you the true quality and condition of the goods and the best adjustment or new sale that can be made.

There are many other features of the Service that fit and protect the requirements of shippers.

Full particulars as to the different forms of Service adapted to the needs of large, small and medium size shippers will be furnished upon request without obligation.

**Produce Reporter  
Company**

**212 W. Washington St.  
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The Original and Largest Selling  
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Why use expensive high power dynamites when this slower, safer farm powder will save you from \$3 to \$5 per hundred pounds and in most farm uses do better work?

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As pioneers and leaders in developing farming with explosives our booklet gives the latest, most reliable and best illustrated instructions. Write for **HAND BOOK OF EXPLOSIVES No. 338-F.**

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We want live dealers in towns still open. Get the orders resulting from our advertising. You need not carry nor handle stock. State jobber's name or bank reference when writing.

**E. I. du Pont de Nemours & Company**  
Established 1802

World's largest makers of farm explosives  
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Come and Live  
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**ORCHARDING in  
NEVADA COUNTY,  
CALIFORNIA**—the Grand-Prize-  
Winning Home of the Bartlett Pear

**CLIMATE** ideal for fruit-raising—ideal for health. Altitude (2500 feet) just right for healthy orchards and healthy orchardists. There's money in Bartlett Pears and Nevada County, California, grows the best in the world. Won the highest award at the Panama-Pacific International Exposition.

Land values have not been boosted sky-high here. Good acreage along the railroad costs but \$40—only \$100 just outside the city. Write for literature to

**CHAMBER OF COMMERCE, Grass Valley, California**  
or **Promotion Committee, Nevada City, California**

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gain  
a whole  
YEAR  
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FALL  
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**ROSES  
TREES  
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64 PAGE  
FALL  
Catalog

Listing the  
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the popular stand-  
ard varieties.

Ask for  
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**Portland Seed  
Company**  
PORTLAND, OREGON

allowed to lay in packing houses frequently many days before being packed, another mistake which is frequently made in the Northwest and one that must be corrected.

**Displacement of Horses by Tractors.** Tractors are being found to be so much more efficient and economical that the United States Government is giving the matter particular study, having issued an article containing much information on the subject, which is well worth reading. The article appears on another page in this edition.

**The Fruit Growers' Agency, Incorporated,** has established a special office in the Federal Building in Spokane, which will be the headquarters for the news service of the Fruit Growers' Agency. Information about the movement of crops, prices, conditions, etc., will be furnished in weekly, sometimes daily, letters and occasionally telegrams to all the members of the association.

Watersprouts and surplus limbs take too much water from the trees in time of drouth; prune out those which are not needed on the tree and save the water for the ripening fruit; fruit won't mature well where shaded by sprouts. The crop shows up better where the tree is kept pruned, admitting sunlight and air, and enables the buyer to see the fruit better. These statements are not guesses or mere opinions. They are some of the things that have been proved by careful tests at the Missouri Agricultural Experiment Station.

### Fruit Growers' Conference

Preliminary outline of subjects suggested for Ninth National Apple Show Conferences of Fruit Growers, to be held at Spokane, Washington, November 20 to 25, 1916.

Four days of conferences suggested. Two days to be given to discussing marketing under auspices of the Fruit Growers' Agency; one day to orchard problems, and one day to by-products. These are just preliminary suggestions. We must learn not only the subjects that the growers need to discuss, but the subjects in which they are so vitally interested that they will attend and discuss. A vitally important subject will bring five hundred growers. It can be profitably followed by another subject that will not interest the growers so directly, but may be more important to their future. We want suggestions of live subjects and of men that are qualified to discuss them.

**Orchard problems:** Fruit buds. How shall we maintain the vigor and bearing of our old trees? Are we feeding the trees enough to produce fruit in commercially profitable quantities? Fertilizing. Cover crops as food for the orchard. Summer pruning. Pest control. Orchard accounting to determine costs.

**By-products:** The evaporator question. A discussion led by Dr. J. S. Caldwell of the State College of Washing-

**C. & S. Clean & Slippery Grease** makes the wheels go 'round four at a time and no stalling.

In 1-lb. tins at your dealer

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THE BROWN SHOES  
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CLOTHES  
MANHATTAN SHIRTS  
JOHN B. STETSON HATS  
NEMO CORSETS**

**Strictly Cash—One Price to All**



ton, illustrated with drawings of types of evaporators and samples of product. How the Wenatchee district is meeting the evaporator problem in a community way. What can we raise that can be profitably sold in cans, and what can the grower make raising this stuff? A discussion led by W. H. Paulhamus.

Marketing: Picking and handling the fruit so that it will stand up in storage. Storage. Community packing houses. Mechanical helps in the packing and handling of our fruit. How can we secure an inspection that will keep

## Apple Distribution

Can eighteen thousand and five hundred cars of box apples be distributed successfully under the private sale system now used?

Can the several apple operators that have controlled marketing in the large cities distribute their share to the profit of all the growers?

Twelve thousand seven hundred cars grown in 1912 brought ruin to the orchard owners. Thirteen thousand five hundred cars of apples produced in 1914 brought red ink to some growers and no profit to the rest.

1916 alternates with 1912 and 1914, large crop years.

The problem of profitable distribution of seven thousand more cars than last year and of five thousand more cars than the banner crop year of 1914, is too large for the present marketing system—but the auctions of the largest cities, with aid of eastern prosperity, can expand the market so as to bring moderate profit to all the growers. Adv.

## PRUNE AND WALNUT TREES FOR SALE

We offer fine stocky prune trees and Vrooman strain grafted walnut trees at bed-rock prices. Also a full line of other nursery stock at bargain rates. Write today.

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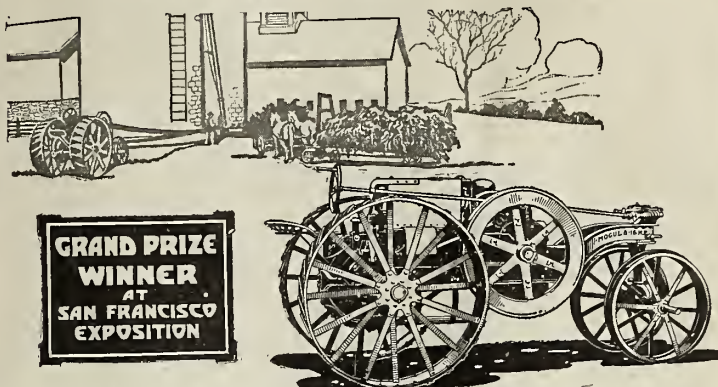
everything about a rainy day seems to say to keep dry, to work in comfort wear the **FISH BRAND REFLEX SLICKER \$3.**

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

## Mogul 8-16—A Real Kerosene Tractor

Sells for \$725 Cash f. o. b. Chicago



**WHEN** you buy a tractor, look beyond the price. It is not the price a man pays for a tractor which is of the most importance, but **what its power costs.** A **Mogul 8-16** burning kerosene, in 5,000 hours of work, will save more than its original price over the cost of the same power produced by a gasoline tractor. Remember, the 8-16 is a real kerosene tractor, planned and built originally for using this cheap, plentiful fuel. Price is of minor importance compared with **Mogul 8-16** saving.

It is our policy to sell the Mogul 8-16 at the lowest possible price, always maintaining **Mogul** quality, though nowadays some of the materials are almost unobtainable even at an advance in price of from 50 to 100 per cent over the prices of a few months ago. \$725 cash f. o. b. Chicago is the lowest price at which **Mogul 8-16** can be sold.

Orders placed at once will stand the best chance of being filled without delay. See the **Mogul 8-16** dealer or write us for the story of kerosene before you buy any tractor.

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(INCORPORATED)



Crawford, Neb. Denver, Col. Helena, Mont. Portland, Ore.  
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Oldest Bank in the Northwest

## A Checking Account

with this bank places your dealings on a business basis and systematizes payments. Moreover, it is our aim to give individual service to our depositors—to give advice on business matters when it is asked—to offer a progressive, helpful banking service. Put it to the test.

**LADD & TILTON BANK**  
PORTLAND, OREGON

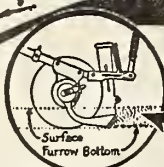
poor fruit off the market and will guarantee the pack? What varieties and sizes of apples are unprofitable? Are we making a mistake in offering more than two grades of fruit on the Eastern market? What improvements do we need to make in our package? What kind of a special package can we use to move the lower grade apples? How shall we sell our apples if we are to continue to sell at a profit? What must

we do to organize to sell our apples at a profit in the future? The service of the United States Office of Markets. Uniform accounting for the marketing organizations. Advertising to develop markets for our apples: What is being done? What can be done? What can we do to develop better outlet for our apples in the Northwestern states. What revisions shall we ask in our horticultural laws?



**Buy Now!**  
**Save 15%**

**297 Peoria Drills to go—  
then prices advance!!**

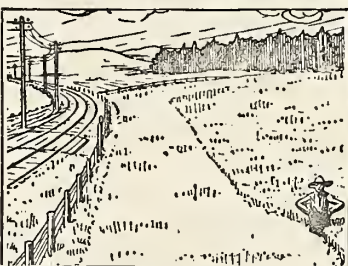
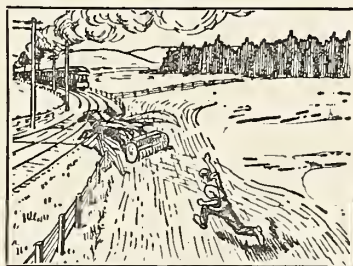


## Plant Right for Big Crops!

**You should buy a Peoria Drill because it will make you more money through bigger crops—because it plants the seed deep and in the right spot. It isn't wasted when planted by a Peoria, nor does it feed the birds. It grows and produces.**

**Now is the time to buy—the season is right and we are still selling at the old BEFORE THE WAR PRICES. In a month or so our present stock will be gone and our price must go up because we will have to pay more ourselves. Buy now.**

## This Man Had A LUCKY ACCIDENT



### Read Mr. Rummens' Letter About It—

R. M. WADE & CO. Portland, Ore.

Pomeroy Wash., Oct. 16, 1914

GENTLEMEN—Last year I was using a (name furnished on request) grain drill to seed ground and while working along the right-of-way the team became frightened and ran across the tracks breaking up the drill badly. I set the broken drill aside and purchased a New Peoria Disc Shoe Drill from your Pomeroy, Wash. agent, Mr. J. R. Stevenson, taking it out and starting to work again where I left off with the other drill. I wish to say that I was perfectly astonished at the results. When the grain was grown, the point where I had begun with the Peoria could be easily marked with the eye. The grain sowed by the Peoria was about four inches higher and at least fifteen to twenty percent thicker. To say that I was highly pleased with the results is stating it mildly.

Very truly yours, W. J. RUMMENS

For 51 years we have sold farm implements in the Northwest and our line suits local conditions best.

**R. M. WADE & CO.**  
**SINCE 1865**  
**PORTLAND, ORE.**  
**329 HAWTHORNE AVE.**  
or  
**THE COFFMAN CO.**  
**910-928 Howard Street**  
**Spokane, Wash.**

We occupy an entire block in Portland on Hawthorne Avenue where we carry an enormous stock.

## The Keeping Quality of Apples

By Charles L. Hamilton, North Yakima, Washington

**T**HE apple growers of the Northwest have been gradually improving their methods of orchard operation; that is, they have in a large measure come to the point where a considerable majority appreciate the necessity for thorough and scientific work in the production of their crops. They have come to realize that fine apples, like any other superior product, require for their production the application of certain now more or less well defined rules and systems for irrigation, cultivation, pruning, spraying and thinning, these regulations only varying slightly to meet the peculiar needs of various local conditions, until at the present time they are able to produce from their orchards good yields of ex-

ceptionally fine appearing apples. They have also spent a great deal of time, money and effort on the improvement of the pack and grade of this fruit, and it is now a recognized fact that the pack and grade, especially of those organizations or dealers who have established brands, is much better than that of the Eastern and Middle Western sections. But even with the improved method of growing, and with the high standard of pack and grade, the growers of the Northwest must realize that the Eastern and Middle Western sections are rapidly adopting the Western methods and that it will be but a short time until their apples will be selling alongside of ours at about the same prices. This condition is further characterized by the fact

that the consumer has little or no preference, so long as he gets a good apple at a fair price. The situation is also made even more serious for the Northwest apple grower by reason of the large freight differential working in favor of those sections nearest the large Eastern markets. To meet this threatened danger to the apple industry of the Northwest, and overcome it, something must be done to keep our apples in the lead; we must continue to produce a superior product. If we fail in this we will find our fruit competing on a par with Middle Western and Eastern barrel stock, which of course would mean practically an end to growing apples on a large commercial scale here in the Northwest. This is a thing which is not only possible, but is practicable, and can be secured by the proper handling of the apples.

If we are to continue to produce "something better" we must devise ways and means for keeping in the lead of our aggressive neighbors east of the Rockies. We do not mean to place too much emphasis on this phase of the matter or appear in the light of a "calamity howler," but that there is an Eastern peril and one which we must some day meet we believe no one will dispute. That it has already become quite markedly apparent may be verified by any of our Western sales agencies.

We do not propose to offer an entire solution of this new problem which confronts the fruit growers of the Northwest, as there must be systematic co-operation between the several departments of our industry to secure this result; that is, our traffic departments

## Turn Apple Waste to PROFIT

### Cider Making

Will Pay  
Someone in  
Your Section  
Handsomely

### Will It Be You?



Start a paying business that grows almost without effort. Thousands are making Big Money turning apple waste into profit for their neighbors by making Good Marketable Cider from windfalls, culls, undergrades, etc., on

### Mount Gilead Hydraulic Cider Presses

Sizes 10 to 400 bbls. daily. We also make cider evaporators, apple butter cookers, vinegar generators, filters, etc. All machinery is fully guaranteed. All power presses have steel beams and sills. Write today for catalog.

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**RAT CURE**  
**TABLETS**  
**ONLY RATS WILL EAT**  
**TRY BEFORE YOU PAY**  
**KILLS 4 RATS FOR 1 CENT**  
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must labor with the railroads for lower freight rates or better transportation facilities; our sales departments must do their part in the advertising of our product and the development of new markets, getting our fruit to the consumer at a fairly remunerative price to the grower; our organizing departments must work as a whole to get the growers together and keep them there. These departments, however, will be helpless and their work of no avail unless the growers themselves give them a superior product to work with—not something just a little better, but something which will far surpass the product of other and competing sections. It is to this phase of the subject that I wish to draw your attention—to the producing of apples which have something which the others have not, and “that something,” in the case of the apple, we believe is superior keeping qualities. This is a thing which is not only possible, but practicable as well, and can be secured by proper handling of the fruit. I wish to offer a few suggestions along this line, as it must be the first move on the part of the fruit growers of the Northwest to thwart the growing Eastern menace, and is one with which we have had some intimate experience during the past two seasons.

It is a well known fact that apples which grow on young trees will not hold up as well as those from older trees, nor will the fruit from low elevations hold up as well as that from the higher elevations, provided the fruit is picked at the same time and handled in the same way; but when it is picked at the same stage of ripeness and handled in the proper manner this difference to a certain extent disappears. To secure the proper degree of ripeness it may be necessary to pick on the lower elevations from a week to two weeks earlier than on the higher land.

It has been the custom with a great many of the growers of the Northwest

# DENNEY & CO.

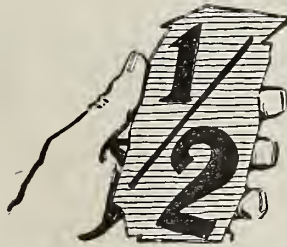
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## Specialize in Box Apples and Other Western Fruits

We're ready to talk business with  
those having good fruit.

Write or wire us what you have to offer,  
or communicate with

**F. H. HOGUE, North Yakima, Wash.**



Save one-half

**M**ICA AXLE GREASE lasts twice as long as ordinary axle grease. Contains powdered mica—a mineral lubricant that is practically wear and heat-proof. It gives a cool, slippery coating that clings to the spindle, makes easier pulling, and out-lasts plain grease two to one. Saves harness, saves horses, saves money. Get a can from your dealer today.

**Standard Oil Company**  
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## J. & H. GOODWIN, Ltd. Apple Importers

Commercial Sales Room, Deansgate, Manchester, England  
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Consignments and Correspondence Solicited

## Make Money on the Fruits You Throw Away

Spread apples and other fruit, berries or vegetables on the “Granger” Evaporator and go about your work. No attention, no bother. No sugar to buy, no jars. Evaporated fruits and vegetables are most wholesome and delicious and enjoyed by all the family. All you need to furnish a supply for home use or for sale at a good profit, is a simple, well-built and reliable “Granger” Evaporator. Use it by resting on back of kitchen stove. No extra cost for operation. Get one now for use this season. Save money drying your own products. Made in two handy sizes, at \$5 and \$10, delivered anywhere and guaranteed satisfactory or your money back. Write for Booklet G.

GRANGER SALES ASSOCIATION  
Lafayette Bldg., Philadelphia

to wait until their apples were highly colored, regardless of the degree of ripeness; pick them in a careless manner and leave them in the orchard boxes out under the trees for a number of days. Sometimes the fruit is protected from the sun, and sometimes it is not. Later, at their convenience,

they haul it into a packing house, where it is sorted and packed, and eventually loaded onto a wagon and delivered to their organization or dealer.

By the time these apples reach the shipper they have had most of the keeping quality taken out of them by the manner in which they have been han-



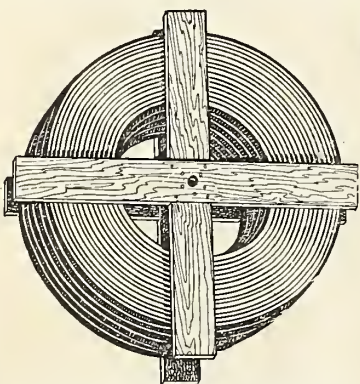


## Store Your Apples in a Warehouse Proven Superior Efficient Service

Storage-in-transit privilege.  
Free Switching, Low Storage  
and Insurance Rates.  
Liberal advances.  
Wire for proposition.

**OMAHA COLD STORAGE CO., Omaha, Nebraska**

## Spend a Nickle and Save a Dime



No. 3 Peerless Duplex Strapping in  
coils of 6,500 feet each—\$14.63 per  
coil with liberal discount.

## Use Peerless Duplex Strapping

ON YOUR  
Shipping Boxes  
and

- (1) You will prevent pilfering.
- (2) You will prevent damage in  
handling.

No. 3 Duplex Strapping is made of high grade Cold Rolled  
Steel of considerable tensile strength and pliability. The turned  
edge protects the packer's hands; the knurled center prevents  
the nail from slipping while being driven.

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Latest and Modern Construction with Automatic  
Sprinkler Protection Throughout.

**Located on Gt. Nor. and C. B. & Q. Tracks**  
with Free Switching to and from All Roads

Storage-in-Transit Privilege with  
Low Storage Rates and Liberal Advances.

Write or wire us.

**71-89 West Island Ave., Minneapolis, Minnesota**

L. B. KILBOURNE, President

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dled, and by the time they reach their destination, if shipped out immediately, they are overripe, and in some cases even show decay. The dealer at the other end takes a "bumping" on the fruit handled in this manner, and begins to look around for some good Eastern barreled stock. Or if this fruit, instead of being shipped immediately, is held at the growing end for any length of time, it is usually necessary to repack before shipping. Such is the result of this method of handling the fruit from the time it is packed until it reaches the consumer.

There is another type of grower in the Northwest who, having made a study of the proper method of handling his fruit, begins picking his apples when they have reached the proper degree of ripeness, regardless of the color. He handles the fruit carefully, being careful to pick the fruit with the stems intact, and avoids all bruising from rough handling; hauls it into the packing house as soon as it is picked, packs it up immediately and delivers it to his shipper, usually within a period of thirty-six hours from the time it is picked. This fruit may not look quite as well as that which has the heavier color and which has received the indifferent handling, but from the standpoint of quality it is worth a great deal more money; for as a rule a "Fancy" or "Second Grade" will bring considerably more when it is known to possess good keeping qualities than an "Extra Fancy" or "First Grade" which has had the life taken out of it before it reaches the trade.

The time for picking the different varieties is rather a hard one to describe. Let us take two varieties as examples—one a fall apple and the other a winter apple. In the case of the Jonathan apple the grower should watch the fruit carefully, and as soon as the trees show a heavy enough percentage of fruit which has two-thirds good red color they should begin picking. Jonathans, to be in prime condition, should be a dark green color, and not show the yellow tinge which this variety takes on when it starts to ripen. Occasionally we find in the orchards in the Yakima Valley Jonathans which will not come up to the two-thirds color requirements, but start to turn a yellow, creamy color without developing the red sufficiently to meet the Extra Fancy grade rules. The fruit, when in this condition, is a little past the proper stage of ripeness for this variety and

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Vetch or "Tares," a great forage or seed crop.  
Red Clover  
Alsike

"Three Grain Oats," wonderful yielder.  
Gray Winter Oats

We will be glad to communicate with you on any of your requirements, send samples and quote prices. We have the largest and best cleaning facilities in the Willamette Valley. Let us hear from you on car lots.

**CORVALLIS FLOURING MILLS**  
**CORVALLIS, OREGON**

Home of the famous Oregon Agricultural College



should not be allowed to hang longer on the trees. In one sense this matter of sacrificing color for keeping quality, or keeping quality for color, resolves itself into a dilemma for the grower, but it has been our experience that the grower who pins his faith on the keeping qualities of his fruit rather than on color stands a far better chance of coming out ahead of his brother grower who chooses the other alternative. At least, we feel perfectly safe in saying this is true in the long run and believe the records of our sales agencies would verify it. For instance, the conditions in the Middle West which our salesmen have had to face the past few months with our fall apples go far toward proving our contention. On the other hand, color need not be altogether sacrificed, as it may be helped in a very large degree by certain methods of cultivation and pruning, while keeping qualities can only be attained by picking at the proper time and careful and expeditious handling thereafter.

After the time of picking has been decided by the individual grower, he should make every effort possible to harvest this variety in as short a time as possible. The fruit should be carefully picked and hauled directly from the orchard on a wagon or a truck which is equipped with a set of good springs, to the packing house, where it should immediately be sorted and packed. In the sorting and packing care should be taken to properly handle the fruit; bruises and punctures should all be taken out, and only the good sound fruit packed. The packer should take care to see that the stem of one apple does not come against the cheek of another, as when the pressure is applied in nailing on the lid and in the subsequent jostling of the box incident to transportation, this will cause a bruise or puncture; or that his packs do not run too high, as this will cause bruising of many apples when the lid is pressed home. He should have not more than the required three-fourths bulge on the top and on the bottom and should have the apples firmly in the box cross-ways.

After the fruit is packed it should be hauled to the warehouse in a wagon which has a good set of springs. The apples should be delivered on the same day they are packed, if possible, or if not, at least within twelve hours after they are packed, as the matter of time which the fruit is held on the ranch or in the packing shed after being picked and before it reaches proper storage is crucial in determining its keeping qual-

### Hawkeye Tree Protectors

Sure,  
Certain,  
Safe.

One rabbit in a single night can ruin many trees. Trees only girdled are almost worthless. Get dollars' worth of protection at a fraction of a cent cost with Hawkeye Tree Protectors. Made of elm veneer, chemically treated. Easily put on, last long. Get them on your trees before the snow comes. 1c each in 100 lots; 5c in 1000 lots. Send for circular and sample. Burlington Basket Co., 118 Main St., Burlington, Iowa.

# Fruit Prices Are Soaring We Have the Trees

*Mr. Planter:* Do what you should have done three or four years ago. Plant a commercial orchard bordered with the Vrooman Strain Franquette English Walnut

*Mr. Salesman, write us the territory.*

**Capital City Nursery Company**  
SALEM, OREGON

PORTLAND, OREGON

## Portland Hotel

The hotel which made Portland, Oregon, famous.  
Most Desirably Located. In the Center of Shopping and Theatre District.  
Covers a City Block.

**Broadway, Sixth, Morrison and Yamhill Streets**  
European Plan—\$1.00 per day and upward

Write for Portland Hotel Booklet.

GEO. C. OBER, Manager

## Arcadia Irrigated Orchards

THE LARGEST AND MOST SUCCESSFUL ORCHARD PROJECT  
IN THE ENTIRE WEST

7,000 acres planted to winter apples. Gravity irrigation. Located 22 miles north of Spokane, Washington, directly on the railroad. We plant and give four years' care to every orchard tract sold. \$125, first payment, secures 5 acres; \$250, first payment, secures 10 acres; balance monthly

SEND FOR BOOKLET

**Arcadia Orchards Company**  
Deer Park, Washington



**FOR FALL SOWING**  
**"Diamond Quality"**  
**TESTED**  
**CLOVERS—ALFALFA**  
**VETCHES—GRAINS**  
**GRASSES and FIELD**  
**SEEDS**  
**MIXTURES for DRY LAND—**  
**WET LAND—BURNS—Permanent**  
**HAY CROPS and PASTURES—**  
**COVER CROPS for ORCHARDS**  
**WRITE FOR SAMPLES**  
 and Prices or Send in Your  
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## WATER LEVEL GRADE THRU THE CASCADES



**NORTH BANK  
ROAD**

## A PLEASANT ROUTE EAST

Along the Grand Canyon of the Columbia, the Rim of the Great Snake River Canyon, Spokane and the Inland Empire.

### Two Fine Trains

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**Portland to Chicago**

in 72 hours

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S.S. "Great Northern" and  
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the ships that equal trans-Atlantic liners  
for speed and equipment

### Hawaiian Cruises

S.S. "Great Northern," Nov. 7 and 27

Send for Hawaiian literature.

R. H. CROZIER, A. G. P. A.  
PORTLAND, OREGON

ities. The shorter the time at the picking and packing end, the longer the life of the apple.

With the Winesap, which we select as our example from the winter varieties, the same method in regard to the picking and handling should be followed. To properly determine when this apple should be picked depends upon the locality in which it is raised. It is a safe rule, however, to begin picking just as soon as the apple has taken on the light, bright red color characteristic of the variety. A great many of the orchardists in the Northwest are under the impression that this variety of apple should be a dark red or almost a black color. This condition, however, is not desirable from the standpoint of keeping qualities. It shows a condition or ripening on the trees, and usually those apples which have the deep red or black color are beginning to show some water-core. Water-cored apples, while they will hold up a certain length of time, cannot be compared in their keeping qualities with those which are picked earlier and which have the light, bright red color. The same rules which we have suggested for handling these varieties will hold good as to other varieties, with such modifications and additions as the peculiarities of each individual variety may require. It is, of course, also true that every man's orchard is a unit in itself, or even small sections of the same orchard. Each block of an identical variety where conditions are entirely similar should be handled as a unit.

The ideal method of handling apples is through the cold storage room, but of course there are a good many districts in which this is not possible. Fruit for cold storage purposes should be placed in the cold storage plants the same day that the fruit is picked and packed, or if this is not possible, it should at least be in on the second day. We have learned from experience that, to hold fruit in storage, it is absolutely necessary to place it there while it is in the same condition it was in when taken from the trees. Our experience shows that fruit which has been held in dry storage for any length of time and which has not been properly handled on the ranch will not hold in cold storage.

I believe it is Mr. Davidson who is responsible for the truism that "The best time to place an apple in cold storage is the day it is picked, the next best time, the day after." If this could be followed literally or even approximately in conjunction with the other suggestions we have made, by Northwest apple growers, we believe that we would be well on the way to giving our fruit "that something" in the way of keeping qualities which would place it in the lead of all other sections, and maintain, insofar as the producing end of the industry is concerned, that marked superiority with which the Northwest apple has been naturally endowed and upon the continued maintenance of which the future of the industry largely depends.

# 308 X Yes is a Vote for Your Children

### Square Deal for Eastern Oregon

If you are in favor of a square deal for the country East of the Cascades you will vote for and work for THE PROPOSED EASTERN OREGON STATE NORMAL SCHOOL AT PENDLETON, OREGON.

### Trained Instructors Wanted

Every resident of Eastern Oregon has a vital interest in the passage of this measure, for Eastern Oregon pays HIGH SALARIES to her teachers and is entitled to the services of TRAINED INSTRUCTORS.

### Only Costs 4 Cents per \$1,000

The annual cost of maintenance of the proposed State Normal School amounts to BUT ONE 25th OF A MILL OR 4 CENTS ON A THOUSAND DOLLARS of taxable property. Isn't it worth this to you to have your children trained to become USEFUL AND PRODUCTIVE citizens?

### Strong Endorsements

Among those who strongly endorse the establishment of the proposed Eastern Oregon Normal School are Governor Wellycombe, J. H. Ackerman, President of the Monmouth State Normal; W. J. Kerr, President of the Oregon Agricultural College; P. L. Campbell, President of the State University; Robert C. Franch, former President of the Weston Normal, and practically all of the leading educators of the State. J. A. Churchill, Superintendent of Public Instruction, voices the sentiments of those who are most familiar with the need of more adequate Normal facilities when he says:

"Oregon's greatest need for its rural schools is the teacher who has had full preparation to do her work. Such preparation can best come through Normal School training.

"I trust that the voters of the State will assist in raising the standard of our schools by establishing a State Normal School at Pendleton. The location is central, the interest of the people of Pendleton in education most excellent, and the large number of pupils in the public schools will give ample opportunity to students to get the amount of teaching practice required in a standard normal school."

### Vote Right

By voting YES for No. 308 you will help to give to the school children of Oregon the same advantages enjoyed by the school children of our neighboring states.

Vote YES for No. 308.

### Eastern Oregon State Normal School Committee

By J. H. Gwinn, Secretary, Pendleton, Oregon

(Paid advertisement.)

## Tarred Berry Twine

For tying Lagonberry, Raspberry and Blackberry vines or other small fruits and shrubs to trellises, stakes or supports.

A single Tarred Yarn, about 400 feet to the pound, put up in 5-lb. balls, 10 balls to the sack.

The time will soon be at hand for cleaning up berry patches and getting vines and shrubbery in suitable condition for another year.

Sold by All Dealers Handling Orchard Supplies

MANUFACTURED BY

**The Portland Cordage Co.**  
PORTLAND, OREGON



## How the Apple Forms Its Buds

[From Fruit-Bud Development of the Apple,  
by F. C. Bradford.]

**U**nder normal conditions the Yellow Newtown forms its fruit-buds on two or three-year-old wood. Under favorable conditions a bud produced in the axil of a leaf on wood of the current year will produce next year a short spur, with whorled leaves, and in the following year this spur will bear fruit. Normally the spur, having borne fruit, will form a fruit-bud during the succeeding year, which may be expected to bear again the following year. These apparently normal conditions are often changed, however. A spur may bear fruit two years in succession and the terminal or sometimes axillary buds produced one year may bear fruit the following year. The Newtown is not one of the varieties that regularly form axillary fruit-buds on new wood and nothing in relation to the time of forming such buds was definitely learned.

Terminal fruit-buds on one-year-old wood are formed more or less in all varieties and are numerous enough in some to be considered normal. This condition was so widespread in the Oregon Agricultural College orchards in 1914 that it was observed on all varieties except one or two. It is very common in Yellow Newtowns, especially on young trees, their entire first crop resulting from such buds. On older trees, this formation of fruit-buds seems to be an expression of superabundance, that is, it is when a tree is forming fruit-buds in great abundance that many will be found as terminals of one-year-old wood. If the number of buds being formed is small, there will be practically none at all on the one-year-old wood. The reduction in numbers is so great that it does not seem to be a mere shrinkage of numbers, but an actual shifting of proportions.

The actual time of visible differentiation into fruit-buds of this class of Newtowns is somewhat behind that taken as normal. On buds taken August 11, 1912, the terminals were considerably less advanced than the normal buds at this time. Yet, by September 16, when other material was taken these buds seemed to be fully as far advanced as the normal. It is well known that the terminal clusters open earlier in the spring than the others.

The earlier stages of buds on two or three-year-old wood, which are forming fruit-buds for the first time, are similar to those on spurs bearing fruit during the current year. Differentiation into fruit-buds begins at the same time and continues well throughout the summer. The condition of the average bud of this class is the same as that of the buds of older spurs, which have borne in previous years. The fact that late development is so rare suggests that the few cases observed may have been caused by any accidental summer pruning.

Many buds have been found on spurs which are bearing in the current year, which matured fruit in two successive

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And offer **LOW INSURANCE**  
**MODERN STORAGE FACILITIES**  
**FOUR TRUNK LINE RAILROADS**  
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ALONG WITH A

**Storage Capacity of 375,000 Boxes**

AT FAVORABLE STORAGE RATES

All fruit for shipment is put in proper shipping condition by experienced help.

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# Payette Cold Storage Co.

Under the Management of **DENNEY & CO.**

**PAYETTE, IDAHO**

This is the year to store your Ben Davis apples and the West is the place to store them.

We have the most modern Cold Plant in the West, on the main line to all Eastern points.

Storage In-Transit rates are in effect on this line. Liberal advances made on Storage Stock.

For full particulars write

**F. H. HOGUE, North Yakima, Wash., Box 144**

**R. H. WEBBER, Hood River, Oregon**

**S. G. SMITH, Freewater, Oregon**

**DENNEY & CO., Payette, Idaho**

**CHAS. A. BINGAMAN, Imbler, Oregon**

# FRUIT GROWERS' AND ASSOCIATIONS:

Please keep us in mind regarding the marketing of your APPLES and other fruits. If you haven't already arranged for selling your crop we would appreciate your writing to us at once stating fully what you have.

Our Mr. W. C. Michaels is now stationed at Wenatchee, Wash.

**Crutchfield, Woolfolk & Clore**

**11 West So. Water St.**

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# FOR SALE

## At A Sacrifice

Two hundred acres of the finest orchard in the Wenatchee District. Good water-right. Just come into bearing, together with eight hundred acres adjoining without water. Varieties of apples the best. Property must be sold soon; reasons made known to prospective purchaser. Will sell for less than one-half value. Possible to pay for the place in two crops. Terms can be made to suit purchaser. All stock and machinery goes with the place.

### Wenatchee Orchard Land Company

WENATCHEE, WASHINGTON

ED. S. RUSSELL, President U. G. POGUE, Secretary

# GO EAST

## UNION PACIFIC SYSTEM

RETURN THE SAME WAY

### SUPERIOR SERVICE

Through Sleeping Cars to and from Chicago, Kansas City, Omaha, Denver and intermediate points. Dining Car Service second-to-none. The Route is via the famous Columbia River—*The "Old Oregon" and "Pioneer" Trails*—wonderful in scenic and historic interest. Automatic Signals guarding the entire main line, and 1,140 miles of double-track are guarantees of the high standard the Union Pacific sets.

## UNION PACIFIC SYSTEM

JOINS WEST AND EAST WITH A BOULEVARD OF STEEL

Tickets, reservations and travel service to suit your needs upon application to

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or the General Passenger Agt., PORTLAND**

years. Sections of buds from bearing spurs showed fruit-buds formed for the following year. In this case, the condition of the tree as a whole seems to have considerable influence on it. In a year of a very small crop, those spurs which were bearing were as likely to form fruit-buds for the next year as those not bearing. On the other hand, when a tree is bearing a full crop, very few, even of the spurs not bearing, will form fruit-buds for next year. Those spurs that have borne fruit previously but are out of bearing the current year, showing less variation in time of differentiation and more uniformity of development than is shown by fruit-buds on spurs that have borne in previous years. Yet, even in these buds there is some late development, early stages being occasionally found in late August but less than was found in buds of other kinds. Because of this relative stability, the development is considered as normal to which all other classes of buds are referred.

Buds from spurs that have borne blossoms in the spring of the current year, but have failed to set or to carry the fruit for any considerable period of time, show throughout the summer every possible range of variation from the first differentiation to stages even slightly in advance of the normal. This may be more or less related to the period at which the fruit has fallen, the most advanced occurring on spurs where the blossoms failed to set fruit and the earliest stages appearing where the fruit hung for a long time.

There has thus been shown some difference in the time of fruit-bud formation in buds in different positions. This is observable until late in the fall, when all fruit-buds seem to be retarded measurably in their progress, and develop equally from then on, until very near the time of blossoming in the spring.

### Fairs, Land and Apple Shows

Idaho State Fair, Caldwell, October 3-6.  
Harney County Fair and Horse Show, Burns, Oregon, October 3-7.  
Klickitat County Fair, Goldendale, Washington, October 4-7.  
Northwest Land Products Exposition, Seattle, Washington, October 4-14.  
Mountain Farm Bureau Fair, Ahwahnee (Grub Gulch), California, October 6-7.  
West Clallam County Fair, Forks, Washington, October 10.  
Clallam County Fair, Port Angeles, Washington, October 12-14.  
Kern County Agricultural Fair, Bakersfield, California, October 24-28.  
Ninth National Apple Show, Spokane, Washington, November 20-25.  
Northwest Livestock Show, Lewiston, Idaho, November 26 to December 2.  
Cascade International Stock Show, North Yakima, Washington, November 27 to December 2.  
International Livestock Exposition, Chicago, Illinois, December 2-9.  
Pacific International Livestock Exposition, North Portland, Oregon, December 4-9.  
National Western Stock Show, Denver, Colorado, January 20-27.

### PORTLAND WHOLESALE NURSERY COMPANY

Rooms 6 & 7, 122½ Grand Ave., Portland, Oregon

Wholesalers of Nursery Stock and Nursery Supplies  
A very complete line of  
Fruit and Ornamental Trees, Shrubs, Vines, Etc.  
**SPECIALTIES**  
Clean Coast Grown Seedlings  
Oregon Champion Gooseberries and  
Write Now Perfection Currants Write Now



## Farm Loan Act, Etc.

Continued from last issue

### Amortization Plan of Repaying Loans

It has been said that all loans are to be repaid on the amortization plan. This plan calls for a number of fixed annual or semi-annual payments, which include not only all interest and charges due the bank, but the principal as well. These payments are so calculated as to extinguish the debt in a given number of years. After five years the borrower has the right on any interest date to make additional payments on the principal in sums of \$25 or any multiple thereof, thus discharging the debt more quickly. The table given below illustrates how a loan of \$1,000 bearing interest at 5 per cent would be retired in twenty years by an annual payment of \$80.24. A study of the columns shows how from year to year the interest is reduced and the proportion of the payment which goes to discharge the principal steadily increases. The final payment cancels the debt:

ANNUAL PERIODS	Total annual payment	Interest at 5 per cent	Paid on principal	Amount of principal still unpaid
1 .....	\$80.24	\$50.00	\$30.24	\$969.76
2 .....	80.24	48.48	31.75	938.00
3 .....	80.24	46.90	33.34	904.67
4 .....	80.24	45.23	35.01	869.66
5 .....	80.24	43.48	36.76	832.90
6 .....	80.24	41.64	38.59	794.31
7 .....	80.24	39.71	40.52	753.79
8 .....	80.24	37.68	42.55	711.23
9 .....	80.24	35.56	44.68	666.56
10 .....	80.24	33.32	46.91	619.64
11 .....	80.24	30.98	49.26	570.39
12 .....	80.24	28.51	51.72	518.67
13 .....	80.24	25.93	54.31	464.36
14 .....	80.24	23.21	57.02	407.34
15 .....	80.24	20.36	59.87	347.46
16 .....	80.24	17.37	62.87	284.60
17 .....	80.24	14.23	66.01	218.59
18 .....	80.24	10.93	69.31	149.28
19 .....	80.24	7.46	72.78	76.50
20 .....	80.33	3.83	76.50	.....
Total .....	\$1604.89	\$604.81	\$1000.00	.....

### Funds Available for Loans

After a Federal land bank has loaned on first mortgage \$50,000, it can obtain permission from the Farm Loan Board to issue \$50,000 in farm-loan bonds based on these mortgages, sell such bonds in the open market and use the money thus obtained to lend on other mortgages. This process of lending on

## The First National Bank

HOOD RIVER, OREGON

A. D. MOE - - President  
E. O. BLANCHARD - Cashier

Capital and Surplus \$125,000  
Assets Over \$500,000

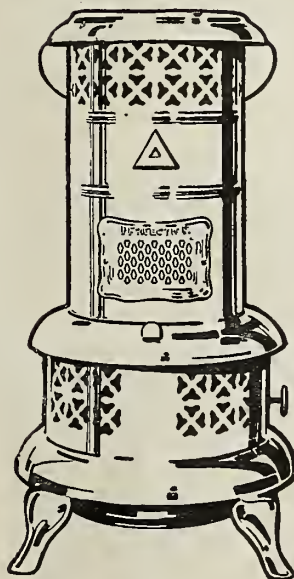
Member Federal Reserve System



## Winter is coming

Cold, rainy days--then you'll appreciate the cosy, cheery warmth of a good oil heater.

Can be carried easily and safely from room to room. One gallon of *Pearl Oil* gives 9 hours of steady, odorless, clean heat.



## Perfection Oil Heater

Dealers Everywhere

STANDARD OIL COMPANY  
(California)

## "BLUE RIBBON"

Grimes Golden and Jonathan Apples

Winter Nellis and Burre D'Anjou Pears

In straight or mixed cars.

All orders given careful and prompt attention.

Wire for Prices.

**Yakima County Horticultural Union**

FRED EBERLE, Manager

NORTH YAKIMA, WASHINGTON





*"Young man, the best tonic for you is the right kind of food. I suggest for Breakfast*

## Ghirardelli's Ground Chocolate

*It's easily assimilated — it's  
extraordinarily nutritious —  
and it is supremely delicious."*

It comes **PROTECTED**—as all chocolate  
should—in  $\frac{1}{2}$ -lb., 1-lb. and 3-lb. hermet-  
ically sealed cans.



Since 1852

D. GHIRARDELLI CO.

San Francisco

mortgages and selling bonds in issues of \$50,000 may be repeated until bonds to the amount of twenty times the bank's paid-up capital are outstanding. If each bank should have only its required minimum paid-up capital of \$750,000, this plan will provide eventually, if all the authorized bonds of the twelve banks are sold, over \$180,000,000 to lend on first mortgages on farm land. The banks, however, can increase their capital stock above the required minimum and so increase the amount of bonds they can sell, and thus increase the total amount of money available for loans on farm mortgages. To make these bonds attractive to investors, the bonds, together with the mortgages upon which they are based, are exempted from federal, state, municipal and local taxation and are made legal investments for fiduciary and trust funds. The capital stock of the Federal land banks is also exempt from taxation. Federal reserve banks and member banks of that system are empowered to buy and sell these bonds. They are to be issued in denominations of \$20, \$50, \$100, \$500 and \$1,000.

### Organization of Banks

The temporary management of the Federal land banks is to be in the hands of five directors appointed by the Federal Farm Loan Board. As soon, however, as the subscriptions from the loan associations total \$100,000, regular directors are to be appointed as follows: Three district directors, resident in the district, shall be appointed by the Federal Farm Loan Board to represent the public interest, and six local directors, resident in the district, shall be elected by the farm-loan associations, who must be stockholders in the bank. The Federal Farm Loan Board shall designate one of its appointees to act as chairman. The act requires that at least one of the three district directors shall be experienced in farming and actually engaged at the time of his appointment in farming operations within the district. Any compensation paid to the directors must be approved by the Federal Farm Loan Board.

### Officers of Loan Associations

Each loan association must have a board of directors and a secretary-treasurer. The directors shall serve without pay. The secretary-treasurer shall receive such compensation as

## FRANQUETTES AND MAYETTES GRAFTED

Splendid stock of the above. Large trees, best and purest strain. Prices on application.

TABLE GROVE NURSERIES, Healdsburg, Cal.

## Nice Bright Western Pine FRUIT BOXES AND CRATES

Good standard grades. Well made. Quick shipments. Carloads or less. Get our prices.

**Western Pine Box Sales Co.**  
SPOKANE, WASH.



**RHODES DOUBLE CUT  
PRUNING SHEAR**

Pat'd June 2, 1903.

THE only  
pruner  
made that cuts  
from both sides of  
the limb and does not  
bruise the bark. Made in  
all styles and sizes. We  
pay Express charges  
on all orders.  
Write for  
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RHODES MFG. CO.,

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## Oregon Nursery Company

ORENCO, OREGON

Extensive growers of all lines of Fruit, Nut and Shade Trees, Evergreens, Flowering Shrubs, Vines, Roses, etc. Introducers of the VROOMAN FRANQUETTE walnut, recognized as the best walnut. Our large complete stock consists of varieties suitable for every kind of climate. Write us about your wants before buying.



may be determined by the board of directors. The association must appoint an appraisal committee for the purpose of valuing lands offered as security for loans. No member of such committee shall have any interest in the property upon which he passes.

#### Funds for Current Expenses

To provide funds for current expenses, the loan association may retain as a commission from each interest payment not to exceed one-eighth of one per cent semi-annually upon the unpaid principal of the loan. This commission is to be deducted from the dividends payable to such farm-loan association by the Federal land bank. If the commissions are not adequate, and an association does not wish to assess members for current expenses, it may borrow at 6 per cent from the Federal land bank to an amount not to exceed in the aggregate one-fourth of its bank stock.

#### Reserves and Dividends

The law requires both the land banks and the farm-loan associations to make provision for certain reserves before they can pay any dividends.

#### Agents of Land Banks

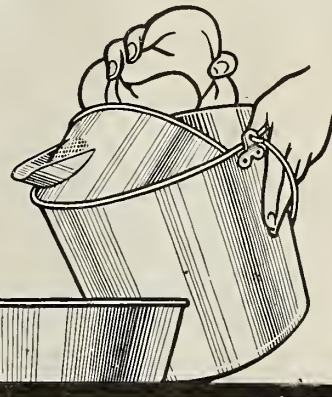
In sections where local conditions do not make the formation of associations practicable, the Farm Loan Board may authorize the Federal land bank to make loans through agents approved by the board. These agents are to be banks, trust companies, mortgage companies or savings institutions, chartered by the state. They may receive as compensation the actual expense involved in transacting the loan and in addition thereto a sum not to exceed one-half of one per cent per annum on the unpaid principal of the loans made through them. When the Farm Loan Board decides that a locality is adequately served by farm-loan associations, no further loans are to be made through agents.

#### Joint-Stock Land Banks

In addition to the system of twelve Federal land banks and the national farm-loan associations of borrowers, the act permits the establishment of joint-stock land banks and authorizes them to carry on the business of lending directly to borrowers on farm-mortgage security and issuing farm-loan bonds. These banks must have a capital of not less than \$250,000. They

## Old Dutch

quickly and thoroughly cuts milk clots and scummy accumulations from milk pans and pails—No greasy film left on the article cleaned.



## Do It Now

Send us your order for

*Walnuts, Pears, Cherries, Apples,  
Prunes, Loganberries*

Fruit prices are high. Get in line for future prosperity.

**ALBANY NURSERIES**

Agents Wanted

First National Bank Building, ALBANY, OREGON

## THE KEYSTONE OF

Before You Decide on Your Trip East

CONSIDER

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**C**  
**E**  
**N**  
**E**  
**R**  
**Y**

Mt. Shasta  
Lake Tahoe  
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Los Angeles  
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**S**  
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Excellent Dining Cars  
All Steel Sleepers  
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Well Arranged Schedules  
Limited Trains  
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The fare is but slightly higher than o'her routes.  
Liberal stopovers allowed.

A postal will bring booklet "Wayside Notes" or ask local Agent  
John M. Scott, General Passenger Agent, Portland, Ore.

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

#### Driver Agents Wanted

5-Pass., 28 H.P. Electric Starting. Ride in a Bush Car. Pay for it out of your commissions on sales. I am daily shipping cars to Bush Agents. Agents getting big orders. Big profits for you. Write at once for my 48-page catalog giving full details. Address me personally, J.H. BUSH, President, Dept. 10-MN BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

#### RUBBER STAMPS

FOR MARKING FRUIT BOXES

**MADE QUICK**

Orders filled same day received. Prices Reasonable  
Quality Guaranteed.

**WHITE STAMP & SEAL COMPANY**  
2nd and Alder, PORTLAND, ORE.



## THE GOOD JUDGE SETTLES A MISUNDERSTANDING.

I'LL POKE ANY MAN IN THE JAW THAT SAYS W-B CUT IS NOT THE REAL TOBACCO CHEW.

COME OFF-- RIGHT-CUT IS THE REAL TOBACCO CHEW, SO POKE YOUR OWN JAW.

WAIT, BOYS: YOU'RE BOTH RIGHT W-B CUT IS LONG SHRED, RIGHT-CUT IS SHORT SHRED, BUT BOTH ARE THE REAL TOBACCO CHEW. NOW SHAKE HANDS.



**Y**OU want to remember that the same fine stock is used in both W-B CUT and Right-Cut. The difference is that one is long shred and the other is short shred, both seasoned with a bit of salt. You will know *real tobacco satisfaction* when you cut out the old kind and take up either one of the Real Tobacco Chew twins. *A little chew lasts and satisfies.*

Made by WEYMAN-BRUTON COMPANY, 50 Union Square, New York City

## Pears -- Cherries -- Prunes

in all leading varieties. This stock is especially fine this year; can't be beat; is free from disease—and, in fact, you can't wish for anything better. Also apples, berries, roses, ornamentals, etc. We have been established here for 26 years and know how to grow the right kind of stock that will give results.

Catalog on request

**Christopher Nurseries, John A. Stewart & Son, Props.**  
Christopher, Washington



# Direct East

## Thru Spokane

Try it next trip.

Ask for your ticket that way  
TO

MINNEAPOLIS  
ST. PAUL  
CHICAGO  
KANSAS CITY  
ST. LOUIS

## Northern Pacific Ry.

The Yellowstone Park Line

Ask the Local Agent of your home railroad  
or write

A. D. CHARLTON, A. G. P. A.  
PORTLAND, OREGON

are under the supervision of the Federal Farm Loan Board, but the Government does not lend them any financial assistance. The joint-stock land bank is free from many of the conditions imposed on the Federal land banks. Subject to the 50 and 20 per cent value limitation and the limitation as to territory, the joint-stock land bank may lend more than \$10,000 to a single individual, and it is not restricted to making loans for the purposes specified in the case of the Federal land bank. The joint-stock bank, like the Federal land banks, cannot charge an interest rate on farm mortgages in excess of 6 per cent, nor shall such interest rate exceed by more than 1 per cent the rate of interest paid by the bank upon its last issue of bonds. A joint-stock bank is limited in its bond issue to fifteen times its capital and surplus. Among the restrictions placed on these banks under the act are (1) that their mortgages must provide for an amortization system of repayment such as is prescribed in the case of loans through the Federal land banks, and (2) that they shall in no case demand or receive under any form or pretense any commission or charge not specifically authorized by the act and approved by the Farm Loan Board. The bonds of the joint-stock land banks are exempted from taxation. Their capital stock, however, is not exempted.

### General Provisions

The law, through the Farm Loan Board, provides the necessary machinery for frequent examinations of the banks and the associations, for the proper cancellation of mortgages, and for the safe custody of mortgages offered as security for bonds. When any mortgage offered as security for bonds is withdrawn, the bank is required to replace the security with other mortgages or with other satisfactory collateral. Heavy penalties of fine or imprisonment, or both, are imposed for violations of the act, malfeasance in office, fraud, embezzlement, defalcation or other illegal practices.

Green weeds and summer grasses exhaust moisture from the orchard soil in a dry time; a mulch on the ground saves soil moisture.

Middle aged men who are not able to do hard manual work, but who must earn a livelihood, can make good money selling home orders of our Fruits, Flowers, Roses, Shrubs and Ornamental Trees. Farmers and Fruit Growers are getting the highest level of prices for their products in twenty-five years, and are going to improve their homes. Our best men are selling from \$500 to \$700 per week—average men from \$100 to \$500. **OUR NEW AGENTS CONTRACT IS A WINNER.** Write at once for territory. **PACIFIC NURSERY COMPANY, 122½ Grand Avenue, Portland, Oregon.**



## Certified Potato Seed from Idaho

By E. P. Taylor, Field Horticulturist,  
University of Idaho, Boise

IN Idaho the natural conditions surrounding potato growers are almost ideal. The soil in the principal potato districts of the state is a loose volcanic ash or a sandy loam and seems with average handling to be loose enough to allow the forming tubers to develop normally in all directions, resulting in potatoes smooth and free from objectionable knots and irregularities. The tubers produced are usually white and mealey and of excellent quality. The climate of the state also seems well adapted to potato growing. The seasons in sections are reasonably cool but long enough to allow the crop to mature. Coupling the ideal soil conditions with a congenial climate and adding to these an ample supply of irrigation water and good drainage, and it is apparent that the potato industry in Idaho has a firm foundation. But it requires more than good soil and climate and water to grow good potatoes from year to year in any locality. It takes thought and care. It has been found that potatoes grown upon the same soil continuously develop disease, and that without careful selection of seed the type is liable to degenerate and the yield fall away.

These are lessons that Idaho potato growers learned to a certain extent by studying the experience of potato growers in other large potato-producing states. Their own yields started downward, dropping from 10,000 to 12,000 cars per year to 7,000 to 8,000 cars. Federal potato experts warned them of the dangers surrounding disease, poor rotations and methods, and state agricultural authorities quickly united in the campaign for better potatoes. Be it said to the credit of an alert class of growers in Idaho, definite plans for potato improvement are now well under way.

One of the movements started by the Agricultural Extension Department of the University of Idaho has been the adoption of a plan leading to potato-seed certification. Such a plan has already been tried in Wisconsin and is working well. Idaho is the first state in the West or Northwest to put into effect such a plan, but this season about ninety separate growers have started into this work in a most thorough way, establishing potato-seed plats upon the cleanest, richest, most disease-free soil upon their places where soil, irrigation and drainage are the best possible. Upon these seed plats of from one to three acres each, only seed potatoes of perfect type and shape have been planted. This seed was selected as free as possible from all disease, including scab, Rhizoctonia and Fusarium wilt—these being the most prevalent potato diseases of the irrigated West. Every seed tuber was cut across the stem end for the detection of any internal vascular infection in order that these could be rejected. As a final precaution this especially selected seed was dipped with corrosive sublimate solution from 1½ to 2 hours. Four ounces of the



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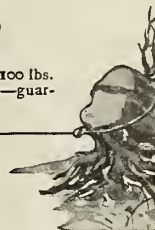
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Required by the Act of Congress of August 24, 1912,

of "Better Fruit," Published Monthly at Hood River, Oregon,  
for October, 1916.

State of Oregon, } ss.  
County of Hood River, }

Before me, a notary public in and for the state and county aforesaid, personally appeared E. H. Shepard, who having been duly sworn according to law, deposes and says that he is the editor and business manager of "Better Fruit," and that the following is to the best of his knowledge and belief a true statement of the ownership, management (and if a daily paper the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

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E. H. SHEPARD,  
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poison being used for each thirty gallons of water. This treatment was given in spite of the fact that the corrosive sublimate was unusually high in price this season.

The seed selection and treatment was done in many cases for the growers by the field horticulturist of the Agricultural Extension Department or by county agricultural agents. Scores of public demonstrations by these officials were held, illustrating the proper methods in the leading potato districts. As a result these ninety or so select seed plats are under way and are being given the very best cultivation, irrigation and care. At blooming time the state or county agent will make inspections to see that odd varieties are culled out and that wilted or diseased hills are dug out and destroyed. Hill selection of seed from the extra high-yielding hills of good type from healthy vines will be made. After digging, a final official inspection will be made of the seed crop produced, and if it proves to be superior it will be covered by a state tag of inspection.

In this manner all growers participating will not only be raising the standard of their seed for their own planting, but if a surplus quantity of such certified seed is produced an outside market demand for Idaho certified seed potatoes will be developed. This will benefit both the buyer who wants seed of extra fine quality and the grower, who can readily command a premium upon such a product. This plan of seed certification is heartily endorsed by the United States Department of Agriculture, and Idaho is the first state of the Western States growing potatoes under irrigation to put such a plan under way.

The Agricultural Extension Department of the University of Idaho is guiding and establishing this work and will adopt measures to safeguard the use of these certificates upon potato seed either sold within the state or shipped out to other states for planting. Lists of the growers receiving certificates, giving their address and the variety of potatoes, will be published by the Extension Department and be given general distribution for the benefit of seed buyers both inside and outside the state.

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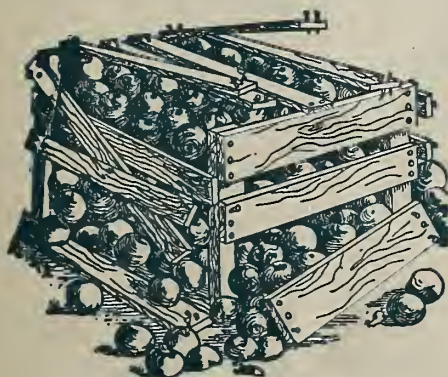
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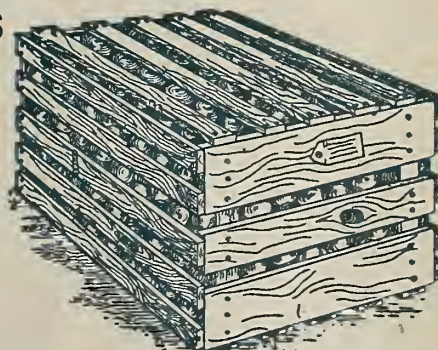
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